In the claims:

Please amend the claims as follows:

4. (Currently Amended) An electrophoresis gel containing two-dimensional genomic DNA data ~~containing medium, which is~~ pattern obtained by ~~means of~~ a method ~~of analysis~~ comprising:

(a) treating genomic DNA with a first restriction enzyme that provides 3'-protruding end ~~restriction enzyme~~ cleavage sites of different sequences;

(b) linking one end of an adapter to a restriction enzyme cleavage site, which ~~is~~was cut by the first restriction enzyme and is complementary to the end of the adapter, and labeling the other end of said adapter;

(c) treating the resulting DNA fragments with a second restriction enzyme and subjecting the resultant restricted fragments to electrophoresis to bring about a first-dimensional fractionation; and

(d) treating the fractionated DNA fragments of step (c) with a third restriction enzyme and subjecting the resultant restricted, fractionated fragments to electrophoresis to bring about a second-dimensional fractionation,~~; and~~

~~(e) detecting the spots of the labeled DNA fragments fractionated in step (d)~~

wherein the first restriction enzyme comprises a recognition sequence that includes Ns, where each N can be any of A, G, C, or T and the linking end of the adapter having a ligating sequence is designed to anneal to the restriction enzyme cleavage site and has a base complementary to each N in the recognition sequence of the first restriction enzyme.

5. (Currently Amended) The electrophoresis gel ~~A genomic DNA data containing medium~~ according to claim 4, wherein said adapter has a 3'-protruding end that is labeled by attaching two to ten radio- or fluorescent-labeled bases complementary to the 3'-protruding end.

6. (Amended) ~~A genomic DNA data containing medium, which has been obtained by means of a method of analysis~~The electrophoresis get according to claim 4, wherein the first restriction enzyme cuts the genomic DNA such that 3' end of the recognition site of the first restriction enzyme has a protruding sticky end.

7. (Canceled) A genomic DNA data containing medium according to claim 4, wherein the first restriction enzyme comprises a recognition sequence that includes ~~at least one~~ Ns, where each N can be any of A, G, C, or T and the linking end of the adapter having a ligating sequence is designed to anneal to the restriction enzyme cleavage site and has a base complementary to each N in the recognition sequence of the first restriction enzyme.

8. (Currently Amended) ~~A genomic DNA data containing medium, which has been obtained by means of a method of analysis~~ The electrophoresis gel according to claim 4, wherein the first restriction enzyme comprises BstXI, Bg1I, or MwoI.

9. (Canceled) ~~A genomic DNA data containing medium~~ The electrophoresis gel according to claim 8, wherein the medium comprises an electrophoresis gel.

10. (Currently Amended) ~~A genomic DNA data containing medium~~An electrophoresis gel containing two dimensional DNA genomic data pattern obtained by a method, ~~which is obtained by a method~~ comprising:

(a) treating genomic DNA with a first restriction enzyme that is sensitive to methylation of the genomic DNA and that produces 3'-protruding ends;

(b) linking one end of an adapter to a 3'-protruding end restriction enzyme cleavage site, which ~~is~~was cut by the first restriction enzyme and is complementary to the end of said adapter, and labeling the other end of said adapter;

(c) treating the resulting DNA fragments with a second restriction enzyme and subjecting the resultant restricted fragments to electrophoresis to bring about a first-dimensional fractionation; and

(d) treating the fractionated DNA fragments of step (c) with a third restriction enzyme and subjecting the resultant restricted, fractionated fragments to electrophoresis to bring about a second-dimensional fractionation,~~; and~~

~~(e) comparing the resulting spots of the labeled DNA fragments with a standard spot pattern derived from DNA fragments known not to be methylated~~

wherein the first restriction enzyme comprises a recognition sequence that includes Ns, where each N can be any of A, G, C, or T and the linking end of the adapter having a ligating sequence is designed to anneal to the restriction enzyme cleavage site and has a base complementary to each N in the recognition sequence of the first restriction enzyme.

11. (Currently Amended) A genomic DNA data containing medium according to claim 10, wherein the first restriction enzyme comprises NotI, AccIII, or BssHII..

12. (Currently Amended) ~~A genomic DNA data containing medium, which is obtained by means of a method of analysis~~An electrophoresis gel containing two-dimensional genomic DNA data pattern obtained by a method comprising:

(a) treating genomic DNA with a first restriction enzyme to produce restriction enzyme cleavage sites having a protruding 3' end;

(b) linking one end of an adapter to a restriction enzyme cleavage site, which is cut by the first restriction enzyme and is complementary to the end of the adapter, and labeling the other open end of said adapter;

(c) treating the resulting DNA fragments with a second restriction enzyme and subjecting the resultant restricted fragments to electrophoresis to bring about a first-dimensional fractionation; and

(d) treating the fractionated DNA fragments of step (c) with a third restriction enzyme and subjecting the resultant restricted, fractionated fragments to electrophoresis to bring about a second-dimensional fractionation,~~; and~~

~~(e) detecting the spots of the labeled DNA fragments fractionated in step (d)~~

wherein the first restriction enzyme comprises a recognition sequence that includes Ns, where each N can be any of A, G, C, or T and the linking end of the adapter having a ligating sequence is designed to anneal to the restriction enzyme cleavage site and has a base complementary to each N in the recognition sequence of the first restriction enzyme.

13. (Currently Amended) An electrophoresis gel containing two-dimensional genomic DNA data pattern obtained by a method ~~A genomic DNA data containing medium~~ according to claim 12, further comprising:

labeling the adapter comprises attaching labeled bases to the open end of the adapter.

14. (Currently Amended) An electrophoresis gel containing two-dimensional genomic DNA data pattern obtained by a method ~~A genomic DNA data containing medium~~ according to claim 12, wherein the adapter is labeled by attaching two to ten labeled bases to the open end of the adapter.

15. (Currently Amended) An electrophoresis gel containing two-dimensional genomic DNA data pattern obtained by a method~~A genomic DNA data containing medium~~ according to claim 12, wherein the adapter is labeled by attaching two to ten radio- or fluorescent-labeled bases to the open end of the adapter.

16. (New) An electrophoresis gel containing two-dimensional genomic DNA data pattern obtained by a method according to claim 4, wherein the first restriction enzyme has an NNNN in the recognition site, where N can be A, G, C, or T or their analog equivalent.